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ACCESSION NR: AP4038628

ENCLOSURE: 01

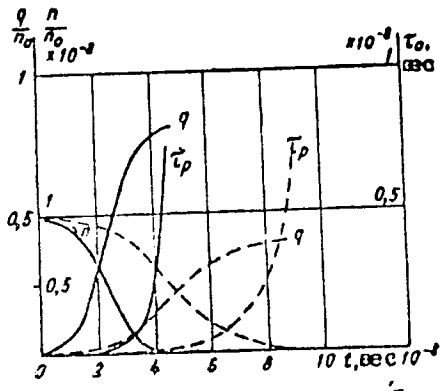

Fig. 1. Resonator time constant (τ_p), number of quanta in resonator (q), and difference in level population (n) for two rates of change of the resonator Q.

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L 10436-65 EWG(j)/EWA(k)/FBD/EWT(1)/EEC(k)-2/EEC(t)/T/EEC(b)-2/ENP(k)/EWA(h)/EWA(m)-2 Pn-4/Po-4/Pf-4/Pl-4/Pl-4/Peb IJP(c)/BSD/ASD(a)-5/RAEM(a)/SSD/AFETR/ESD(gs)/ASD(d)/AFWL/ESD(t)/RAEM(t) WG

ACCESSION NR: AP4043669 S/0109/64/009/008/1357/1367

AUTHOR: Mikaelyan, A. L.; Ter-Mikaelyan, M. L.; Turkov, Yu. G. B

TITLE: Theory of a laser in steady-state operation

SOURCE: Radiotekhnika i elektronika, v. 9, no. 8, 1964, 1357-1367

TOPIC TAGS: laser, continuous wave laser, ruby laser, steady state laser, traveling wave laser

ABSTRACT: A continuous-wave laser analysis is presented in terms of general steady-state equations defining emission and pump powers as functions of cavity and crystal parameters. The formal treatment also considers the distribution of emission intensity and population inversion over the length of the active medium. The theoretical results are verified by experimental data obtained for a ruby laser. The comparision shows excellent agreement between theory and practice, and the curves obtained permit an easy selection of the optimum values of pump power and reflection coefficients. In addition to the usual ruby laser system representing a Fabry-Perot interferometer, the analysis includes the so-called traveling-wave laser, re-

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ACCESSION NR: AP4043669

where the return path is outside the ruby rod. Finally the theory is applied to the laser operating as an amplifier. Orig. art. has: 12 figures and 42 equations.

ASSOCIATION: none

SUBMITTED: 12Nov63 ATD PRESS: 3110 ENCL: 00

SUB CODE: EC NO REF SOV: 009 OTHER: 002

Card 2/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 8954-65 EWG(j)/EWA(k)/FBD/EWT(l)/EWT(m)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWP(q)/EWA(m)-2/EWA(h) Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c)/ASD(a)-5/RAEM(t)/ASD(d)/ESD(gs)/AFETR/SSD/ESD(t)/RAEM(a)/ESD/AFWL WG/WH

ACCESSION NR: AP4043693 S/0109/64/009/008/1542/1545

AUTHOR: Mikaelyan, A. L.; Gardash'yan, V. M.; Sakharova, N. A.; Turkov, Yu. G. B

TITLE: Experimental investigation of ruby laser energy characteristics

SOURCE: Radiotekhnika i elektronika, v. 9, no. 8, 1964, 1542-1545

TOPIC TAGS: laser, ruby laser, xenon flash lamp, pumping energy, laser output energy, transmission coefficient, laser efficiency

ABSTRACT: The lasers used in this experiment consisted of a ruby rod and a linear xenon flash lamp placed side by side in a polished oval reflector. The investigated ruby specimens were 60, 80, and 120 m long and 6 to 12 mm in diameter. The optical axes of all specimens were perpendicular to the axis of the rod. The working interval of the pumping lamps was 80 and 120 mm, and their inside diameter was 6.4 mm. Flat dielectric mirrors placed at a distance of 10—20 cm from the ruby were used as cavity resonators. Relatively low pumping levels (up to 1000—1200 joules), which make it possible to produce

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ACCESSION NR: AP4043693

lasers operating under periodic regimes, were utilized during the investigation. The following conclusions were reached: 1) mirror misalignment within 15—20" has virtually no effect on the value of threshold energy, and at higher degrees of misalignment the threshold increases considerably; 2) an increase in the transmission coefficient of the optical resonator brings about a proportional increase in output energy; with a further increase of the transmission coefficient radiated energy continues to increase as compared to absorbed energy; however, in this case also the threshold noticeably increases and the increase in output energy is slowed down; finally, at very high transmission coefficients the threshold increases to such a degree that radiation sharply decreases or disappears altogether; the maximum of output energy is obtained at transmission coefficients of the order of 50—70%; 3) the optimum transmission coefficient increases with an increase in specimen length; 4) when the diameter of the ruby considerably exceeds the internal diameter of the lamp, its decrease has no noticeable effect on the value of the absorbed energy and results in an increase in the density of ruby pumping energy, a decrease in threshold energy, and an increase in output energy. When the transverse dimensions of lamp and ruby are approximately equal, a decrease

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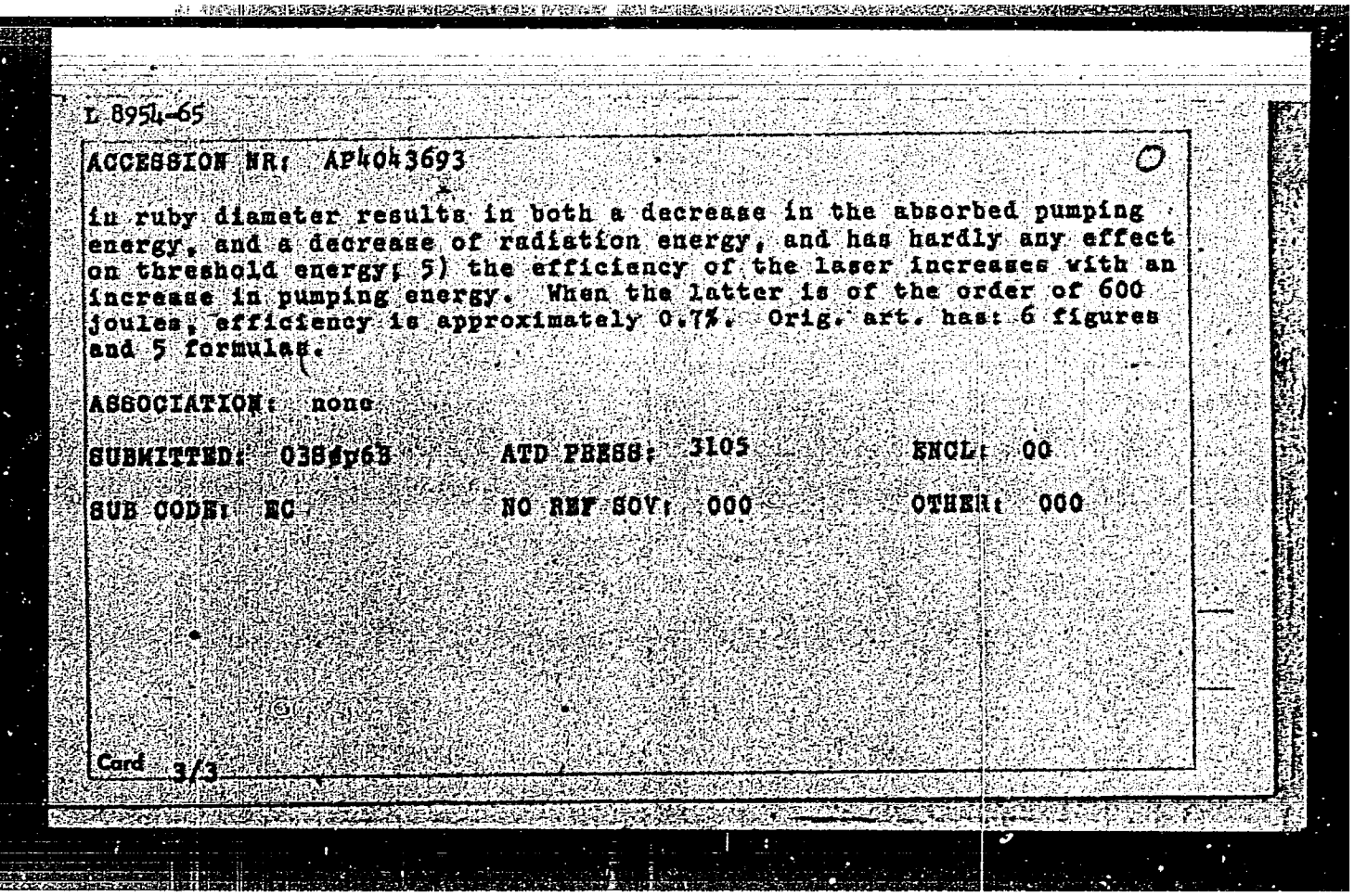

L 8954-65

ACCESSION NR: AP4043693

in ruby diameter results in both a decrease in the absorbed pumping energy, and a decrease of radiation energy, and has hardly any effect on threshold energy; 5) the efficiency of the laser increases with an increase in pumping energy. When the latter is of the order of 600 joules, efficiency is approximately 0.7%. Orig. art. has: 6 figures and 5 formulas.

ASSOCIATION: none

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SUB CODE: NC NO REF SOV: 000 OTHER: 000

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 10433-65 EWG(j)/EWA(k)/FBD/EWT(l)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWA(h)/EWA(m)-2 Po-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c)/AFETR/SSD/ASD(a)-5/BSD/AFWL/ASD(d)/RAEM(a)/ESD(gs)/ESD(t)/RAEM(t) WG

ACCESSION NR: AP4046679 S/0109/64/009/010/1788/1799

AUTHOR: Mikaelyan, A. L.; Ter-Mikayelyan, M. L.; Turkov, Yu. G.

TITLE: Calculation of nonstationary processes in lasers 15 B

SOURCE: Radiotekhnika i elektronika, v. 9, no. 10, 1964, 1788-1799

TOPIC TAGS: laser, laser amplification, laser theory

ABSTRACT: A theoretical investigation of the nonstationary processes in controlled-Q optical generators and amplifiers is presented. Optical amplifiers are of particular interest because of the possibility of using them for power amplification. The transmission of radiation pulses through the optical amplifier is considered; the amplifier time constant is determined (formula 22). It is pointed out that the losses in the active medium restrict the possibility of obtaining high energy levels by lengthening the laser rod; hence, an optimum rod length exists for specified parameters of the active medium. The maximum

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ACCESSION NR: AP4046679

density of the radiated energy is evaluated. A generator with a momentary application of a high-Q feature is investigated, and the effect of internal losses on the radiated power is calculated. "The authors wish to thank A. A. Pistol'kors for his valuable comments in discussing the article." Orig. art. has: 8 figures and 61 formulas.

ASSOCIATION: none

SUBMITTED: 20Feb64 ENCL: 00

SUB CODE: EC NO REF SOV: 004 OTHER: 004

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ACCESSION NR: AP4034032 S/0020/64/155/006/1298/1301

AUTHOR: Ter-Mikayelyan, M. L.; Mikaelyan, A. L.

TITLE: Theory of Laser Emission

SOURCE: AN SSSR. Doklady*, v. 155, no. 6, 1964, 1298-1301

TOPIC TAGS: laser, stimulated light emission, radiation transfer, continuous laser, pulse laser, solid state laser

ABSTRACT: The authors use the transfer equations for generation of light in lasers with a solid rod having parallel mirrored ends. In these equations, they separate the absorption coefficient into two parts: one connected with stimulated emission, the other with the rest of the processes. The first part is proportional to the overpopulation, i.e., to the excess of the number of atoms in the upper state over that of the lower, per unit volume. The equations are solved for both the stationary case (continuous laser) and the discontinuous case (pulse operation). For the case of a negligibly small reflection coefficient, the solution gives the passage of photons through an overpopulated medium. Orig. art. has: 15 formulas.

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ACCESSION NR: AP4034032

ASSOCIATION: Yerevanskiy gosudarstvenny*y universitet (Yerevan State University)

SUBMITTED: 080ct63 ATD PRESS: 3076 ENCL: 00

SUB CODE: EC NO REF SOV: 006 OTHER: 003

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L 64156-65 EWA(k)/FBD/EWG(r)/EWT(1)/EEC(k)-2/T/EEC(b)-2/EWP(k)/EWA(h)/
ACCESSION NR: AP5021148 EWA(m)-2 SCTB/ UR/0386/65/002/001/0037/0041
IJP(c) WG

AUTHOR: Mikaelyan, A. L.; Korovitsyn, A. V.; Naumova, L. V. 44 45

TITLE: Laser with a directivity pattern whose width corresponds to the diffraction range 25,44

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 1, 1965, 37-41, and top half of insert A at rear of journal

TOPIC TAGS: laser, laser resonator, resonator mode, mode selection, resonator configuration, diffraction loss, resonator loss, confocal resonator, helium neon laser, gas laser

ABSTRACT: A method for selecting the resonator mode most suitable for laser action is based on the choice of a resonator in which the diffraction losses due to the fundamental modes are essentially different. The proposed resonator consists of plane and spherical mirrors (with radius of curvature R) separated by a distance $L \approx R$. At $R > L$ the configuration is equivalent to a confocal system. The diffraction losses of such a resonator are determined by the equiv-

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alent Fresnel number, which can be reduced considerably through suitable selection of L. Thus, when L is sufficiently comparable to R, the Q of the fundamental mode is substantially higher than that of other modes, and a single-mode laser action is achieved. The above conclusions were confirmed experimentally using a helium-neon laser with a discharge tube 1100 mm long and 4 mm in diameter. Laser action occurred at 0.63 and 1.15 μ, depending on the mirror used ($R_{spherical}$ = 1300 mm). The dependence of the laser power output and the number of excited modes (Q) on the resonator length was investigated and the results are shown in Fig. 1 of the Enclosure, where the occurrence of a single-mode generation is indicated by an arrow. At that instant ($\frac{L}{R}$ = 0.975), the output power attains 0.7—0.8 of the maximum and in this case was 4 Mw and 2.5 Mw at 1.15 μ and 0.63 μ, respectively. The single-mode generation ensures a narrow directivity pattern, the width of which corresponds to the diffraction range. This pattern was investigated from the plane mirror side, and the field distribution in the focal plane of the lens was measured. The results for different values of L/R are presented. Fig. 2 shows the directivity patterns for a multimode oscillation (curve 1, L/R = 0.880)

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ACCESSION NR: AP5021148

and two fundamental mode oscillations (curves 2 and 3, L/R = 0.975 and 0.987, respectively). The computed and experimental values of the pattern width are in a good agreement. Orig. art. has: 3 figures. [YK]

ASSOCIATION: none

SUBMITTED: 21May65 ENCL: 01 SUB CODE: EC

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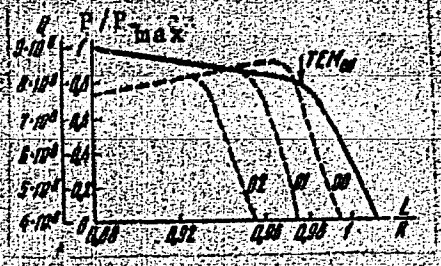

Fig. 1. Dependence of laser power output and number of excited modes on resonator length

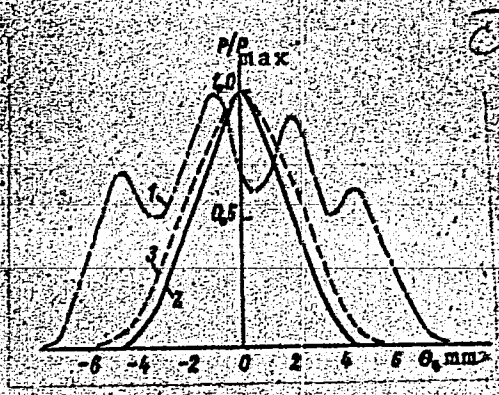

Fig. 2. Directivity patterns for a multimode oscillation and two fundamental mode oscillations

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L 56481-65 EWA(k)/FBD/EWG(r)/EWT(1)/EPA(s)-2/EPF(c)/EEC(k)-2/EWG(m)/EPA(w)-2/ EEC(t)/T/EDC(b)-2/EWP(k)/EPA(bb)-2/EWA(m)-2/EWA(h) Pm-4/Pn-4/Pz-6/Po-4/Pf-4/ Pr-4/Pt-7/Peb/P1-4/P1-4 SCTB/LJP(c) WG/JHB/TT/WW/AT

ACCESSION NR: AP5015812 UR/0109/65/010/006/1094/1103

621.378.3.01

AUTHOR: Mikaelyan, A. L.; Turkov, Yu. G.

TITLE: Efficiency of energy conversion in a medium with inverse population [Reported at the International Symposium on Laser Physics, Bern, 13 Oct 64]

SOURCE: Radiotekhnika i elektronika, v. 10, no. 6, 1965, 1094-1103

TOPIC TAGS: laser, laser energy, ruby laser

ABSTRACT: The losses associated with the conversion of noncoherent light absorbed by an active medium into induced coherent radiation are theoretically considered. It is demonstrated that the nonresonant losses in the crystal and spontaneous radiation largely determine the efficiency of energy conversion in ruby crystals, these losses are responsible for reducing

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ACCESSION NR: AP5015812

the efficiency 2—3 times. The efficiency increases with shorter pulses. Under controlled-Q conditions, an optimal pumping exists; with higher pumpings, the absorption of the pumping energy drops, and a considerable part of that energy is dissipated outside the active crystal. From an equation of inverse population, the probability is determined of induced transitions of excited atoms into the ground state under the influence of spurious radiation. This probability is 10^4 per sec, for a 12-cm long, 0.65-cm diameter ruby crystal with pumping 3 times as high as the threshold pumping (determined experimentally).

"The authors wish to thank M. L. Ter-Mikayelyan for discussing the work." [03]

Orig. art. has: 10 figures and 34 formulas.

ASSOCIATION: none

SUBMITTED: 04Aug64 ENCL: 00 SUB CODE: EC, SS

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L 58924-65 EWA(k)/FBD/EWG(r)/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/EWP(l)/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h) Pm-4/Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c) WG/WH

ACCESSION NR: AP5017676 UR/0109/65/010/007/1350/1351

621.378.325.001.5

AUTHOR: Mikaelyan, A. L.; Anton'yants, V. Ya.; Dolgiy, V. A.; Turkov, Yu. G. 64 B

TITLE: Investigation of a laser with passive shuttering

SOURCE: Radiotekhnika i elektronika, v. 10, no. 7, 1965, 1350-1351

TOPIC TAGS: passive element, laser output, Q control, Q switching, ruby laser, phthalocyanide, vanadium phthalocyanide

ABSTRACT: An expression was derived for the peak intensity of a pulse obtained from a laser with passive shuttering. The peak intensity depended strongly on the ratio between the effective cross sections of the active medium and the material composing the passive element; as the ratio increased, the power output approached the value corresponding to that obtained in the instantaneous Q-switching. This theory was confirmed experimentally with a ruby laser employing a passive element of phthalocyanide. The element was 2 cm long and consisted of a 2×10^{-6} M solution of vanadium phthalocyanide in nitrobenzol. At low power levels, its transmission was 22%; near saturation, 71%. Pulses of less than 20 nanosec duration were obtained. The calculated pulse duration for instantaneous switching (resonator

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ACCESSION NR: AP5017676

length, 60 cm; ruby length, 12 cm) was approximately 15 nanosec. For a pumping power of 400 J, a pulse of approximately 0.1 J was emitted. With increased pumping additional pulses appeared, the spacing between which decreased with increased pumping power. Orig. art. has: 2 figures and 3 formulas. [YK]

ASSOCIATION: none

SUBMITTED: 22Mar65 ENCL: 00 SUB CODE: EC

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L 63513-65 EWA(k)/FBD/EWG(r)/EWT(l)/EEC(k)-2/T/EEC(b)-2/EWP(k)/EWA(m)-2/
EWA(h) Pm-4/Pn-4/Po-4/Pf-4/P1-4/P1-4/Peb SCTB/IJP(c) WG

ACCESSION NR: AP5017677 UR/0109/65/010/007/1352/1353
621.378.325.001.5

AUTHOR: Mikaelyan, A. L.; Turkov, Yu. G.

TITLE: Maximum duration of laser-radiation pulse

SOURCE: Radiotekhnika i elektronika, v. 10, no. 7, 1965, 1352-1353

TOPIC TAGS: laser, controlled Q laser

ABSTRACT: It has been observed, in controlled-Q lasers, that there is a considerable discrepancy (by several times) between the theoretical and experimental values of their output-pulse duration. This short article offers a theoretical proof that the above discrepancy is caused by the fact that the active material (such as a ruby) in a laser is much shorter than the resonator length. This formula is derived for the pulse duration: $\Delta t = \varkappa \Delta t|_{\varkappa=1} \propto \varkappa \frac{10}{\sigma \Delta_0}$, where $\varkappa$ is the ratio of the power of a completely-filled-resonator laser to that of an

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incompletely-filled-resonator laser; v is the velocity of light in the crystal; σ is the effective cross section of the induced transition; Δ_0 is the initial inverse population in the crystal. The formula is claimed to be in good agreement with experimental data. Orig. art. has: 1 figure and 3 formulas. [03]

ASSOCIATION: none

SUBMITTED: 22Mar65 ENCL: 00 SUB CODE: EC

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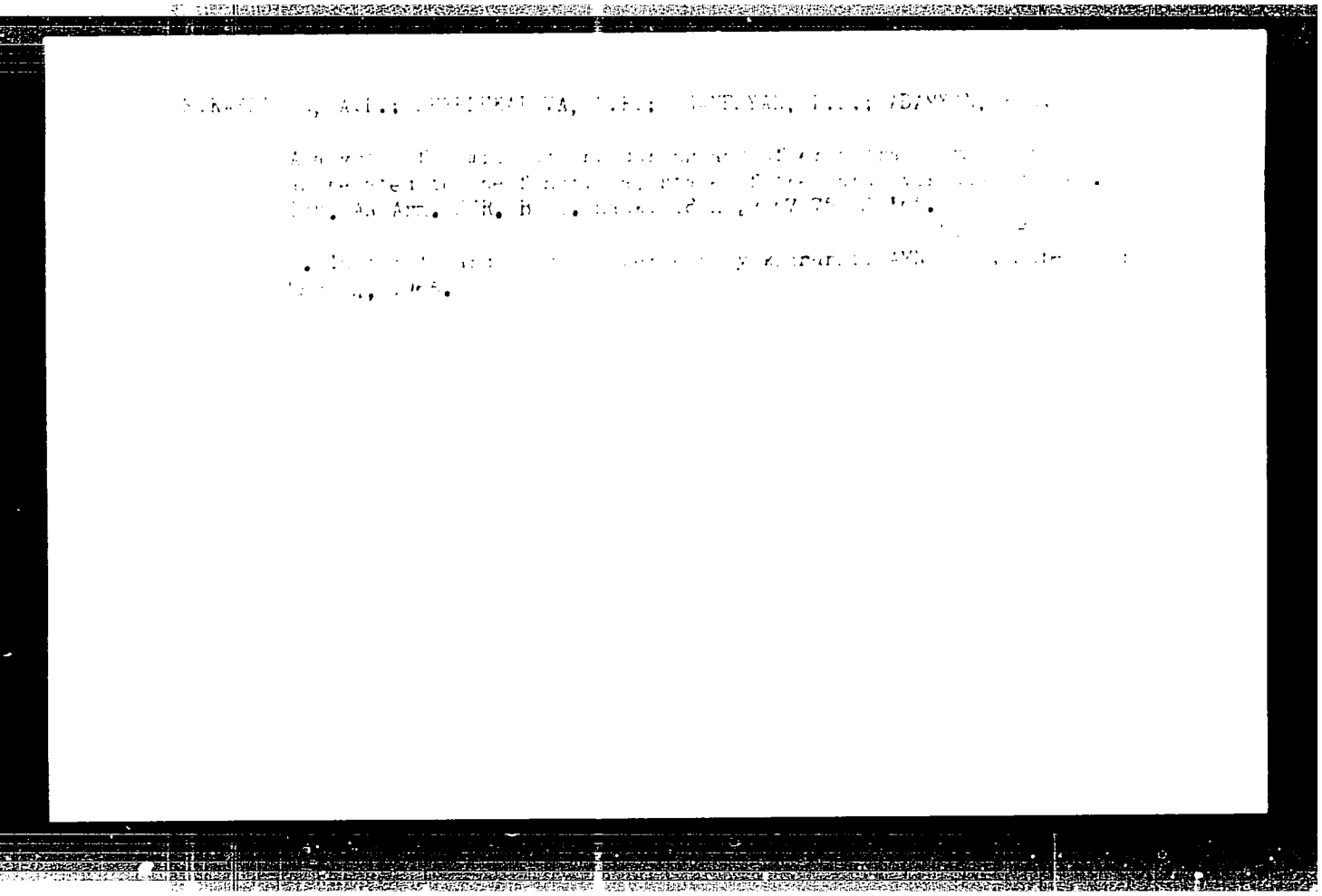

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

[illegible], A.L.; [illegible], B.I.

[illegible]

[illegible]

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L 27065-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c) WG

ACC NR: AP6014254 SOURCE CODE: UR/0109/66/011/005/0946/0947

AUTHOR: Mikaelyan, A. L.; Savel'yev, V. G.; Turkov, Yu. G. 41 B

ORG: none

TITLE: Calculation of the passive-switched laser

SOURCE: Radiotekhnika i elektronika, v. 11, no. 5, 1966, 946-947

TOPIC TAGS: solid state laser, ruby laser, laser modulation, Q modulation, passive modulation, phthalocyanine

ABSTRACT: The passive-switched ruby laser was investigated by the authors earlier (Rad. i elektronika, 1965, v. 10, no. 7, 1350); the generation was calculated by neglected pumping and relaxation processes transpiring during the pulse radiation. The present article reports some results obtained on a computer which clarify the effect of the relaxation between the levels of the modulator substance (phthalocyanine) and the time characteristics of radiation. The numerical calculation shows that normally the relaxation does not affect the output power; only with a very short relaxation time (under 10^{-12} sec) may the laser output fall off. Also, the generation of pulses, with very high repetition frequency and with a low-attenuation passive cell was calculated (cf. R. Dunsmuir, J. El. and Control, 1961, v. 10, no. 6, 453). Orig. art. has: 2 figures and 3 formulas. [03]

SUB CODE: 20 / SUBM DATE: 04Aug65 / ORIG REF: 003 / OTH REF: 001/ ATD PRESS: 4254

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L 44359-66 EWT(l)/EWT(m)/EWP(e) IJP(c) WH/GD
ACC NR: AT6022269 SOURCE CODE: UR/0000/66/000/000/0028/0031

AUTHOR: Mikaelyan, A. L. (Doctor of technical sciences, Professor); Koblova, M. M.; Melikova, I. M.; Ovchinnikova, Ye. V.; Turkina, K. Ya.

ORG: none

TITLE: Investigation and design of optical gates

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya kvantovoy elektroniki. Doklady. Moscow, 1966, 28-31

TOPIC TAGS: laser radar, Faraday effect, optic equipment component, terbium compound, diamagnetism

ABSTRACT: A scheme is proposed for a simple gating device which contains a 45° polarization rotator, a 45° quartz rotator, and a polarizer. A plane polarized light beam passes through the quartz rotator, the polarizer and the active substance where under the applied field the polarization of the beam is restored to its initial condition. The reflected light is polarized identically as the beam leaving the gate is rotated 45° more by the rotator, and is either carried away or is absorbed by the polarizer. Requirements for an optical gate are maximum decoupling, minimum loss, minimum distortion, minimum reflection, lightweight, and small size. The Faraday effect was studied with special terbium-aluminum garnet. Among diamagnetic glasses studied were samples

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ACC NR: AT6022269

rich in lead oxide. The highest Verdet constant is obtained with $PbO \cdot CeO_2$, BrO_3, P_2O_5, and aluminum silicate glass, doped with terbium. The Faraday effect is directly dependent on the ceric oxide content of the glass. The Verdet constant was measured for the various samples of various thickness and was found to fall off in moving from green to red light. A polarization rotator was made of two 9.5 mm pieces of TbAl garnet glued together, which at $\lambda=0.63$ μ, required a field of 4800 oe to rotate the light 45°. The overall length of the gate is 13 cm. Losses are 2.2 db looking in and decoupling is equal to 28.5 db. Methods of improving the design are suggested, especially by using a single crystal. The design may be used in an optical circulator. Orig. art. has: 2 figures.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 45785-66 EWT(1)/T IJP(c)
ACC NR: AP6031985 SOURCE CODE: UR/0386/66/004/005/0172/0174

AUTHOR: Mikaelyan, A. L.; Bobrinev, V. I.

ORG: none

TITLE: Noise limitations on the reconstruction of three-dimensional pictures

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 5, 1966, 172-174

TOPIC TAGS: LASER, holography, laser application, stereoscopic photography, photographic emulsion, photographic image, signal to noise ratio/ LG-75 laser

ABSTRACT: The authors show that the theoretical advantages of holography methods for obtaining three-dimensional pictures, namely high and large dynamic brightness range, are offset in practice by the presence of noise, which comes into play during the reconstruction of the image in a manner entirely different from ordinary photography. The randomly disposed emulsion grains, which are separated by appreciable distances (compared with the wavelength) cause the interference pattern registered on the hologram to have discontinuities that scatter the coherent light transmitted through such a hologram. The spatial distribution of the scattered radiation obeys statistical laws that are characteristic of shot noise. A formula is presented for the ratio of the useful signal power to the power of the background produced by scattering from these inhomogeneities. The derivation of this formula is based on the fact that useful signal is the result of coherent addition of waves that start

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L 45785-66
ACC NR: AP6031985

from different elements of the hologram, and the background is the result of addition of waves scattered by individual emulsion grains, with random phases. To check on the formula the authors experimented with production of holograms and reconstruction of three-dimensional images on different emulsions. The holograms were taken with a single-mode gas laser of ~2.5 MW power; the exposures were several minutes and the hologram dimensions 9 x 12 cm. The images were reconstructed with an LG-75 laser operating in the multimode regime at a power 20-25 MW. The calculations and the experiments show that the graininess of the emulsion influences not only the resolving power of the image, but also, more importantly, the level of the background that distorts the brightness distribution in the image. The authors thank I. R. Protas and G. P. Feyerman who supplied the photographic plates, and Yu. G. Turkov, I. V. Patapov, and L. N. Razumov for great help with the experimental research. [02]
Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20/ SUBM DATE: 14Jun66/ OTH REF: 004/ ATD PRESS: 5084

Card 2/2 pb

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ACC NR: AP6031454 SOURCE CODE: UR/0056/66/051/002/0680/0682

AUTHOR: Mkrtchyan, A. L.; Ter-Mikayelyan, M. L.

ORG: Joint Radiation Laboratory, Yerevan State University (Ob"yedinennaya radiatsionnaya laboratoriya Yerevanskogo gosudarstvennogo universiteta); Joint Radiation Laboratory, Academy of Sciences, Armenian SSR (Ob"yedinennaya radiatsionnaya laboratoriya Akademii nauk Armyanskoy SSSR)

TITLE: Transmission of light pulses through a medium with population inversion

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 680-682

TOPIC TAGS: laser theory, population inversion, ~~light~~ laser propagation, light pulse

ABSTRACT: Propagation of light pulses through a uniform medium with population inversion was analyzed by means of a system of quasi-classical equations for the case of exact resonance $\varepsilon = 0$ (where $\varepsilon = \omega_0 - \omega$) and by means of the perturbation theory. The regular amplification regime varies sharply if the following condition is not satisfied:

$$\frac{\partial \bar{A}}{\partial x} + \frac{1}{v}\frac{\partial \bar{A}}{\partial t} = \frac{\pi |V| \Delta_0}{\omega} \sin\left(\frac{2|V|}{c\hbar}\int_0^t A\,dt\right),$$

where $\bar{A}(x,t) = \bar{A}(x,t)\exp(ikx - i\omega t) + k.c.$ is the radiation potential vector, v is the light velocity in the medium, Δ_0 is the overpopulation of the medium at $t = 0$, and $|V|$ is the modulus of the transition element matrix. In this case, the emission intensity

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L 44?...5

ACC NR: AP6031454

has an oscillatory character and the amplification or attenuation effects are suppressed. Orig. art. has: 4 formulas. (YK)

SUB CODE: 20/ SUBM DATE: 08Feb66/ ORIG REF: 005/ OTH REF: 001/ ATD PRESS: 5080

Card 2/2 blg

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ACC NR: AP6027243 SOURCE CODE: UR/0109/66/011/008/1518/1520

AUTHOR: Mikaelyan, A. L.; Ter-Mikayelyan, M. L.; Turkov, Yu. G.; D'yachenko, V. V.

ORG: none

TITLE: Use of quasi-classical and balance equations for calculating stationary conditions in lasers

SOURCE: Radiotekhnika i elektronika, v. 11, no. 8, 1966, 1518-1520

TOPIC TAGS: laser theory, laser R and D

ABSTRACT: The calculation of laser-energy characteristics by the conventional balance method is compared with the calculation by a more rigorous method which takes into account the wave interference in the resonator. In the latter method, the field is described by the classical Maxwell equations, and the active atoms, by the Schredinger equation; two opposing waves are considered in an optical resonator formed by two planar mirrors. Curves of radiation intensity vs. output-mirror reflectivity calculated by the two above methods are shown. At the optimal-reflectivity point, the balance equations have a maximum error (25%). With higher pumping levels and longer specimens, the error diminishes. Orig. art. has: 3 figures and 6 formulas.

SUB CODE: 20 / SUBM DATE: 17Feb66 / ORIG REF: 005

Card 1/1 UDC: 621.378.325.001.24

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ACC NR: AT6022267 SOURCE CODE: UR/0000/66/000/000/0024/0024

AUTHOR: Mikaelyan, A. L. (Doctor of technical sciences, Professor); Zubrinev, V. I.

ORG: none

TITLE: Use of lasers to form three-dimensional images

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya kvantovoy elektroniki. Doklady. Moscow, 1966, 24

TOPIC TAGS: laser application, laser optics, laser photography, hologram

ABSTRACT: Methods of forming three-dimensional images with coherent light are discussed. It is shown that these methods will produce high quality reproduction of images since the resolution at the image is limited only by diffraction at the aperture and the size of the hologram or interferogram is equal to the size of the aperture. Some experimental results are described. [Abstracter's note: This is essentially the entire text of the article].

SUB CODE: 20 / SUBM DATE: 11Apr66

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

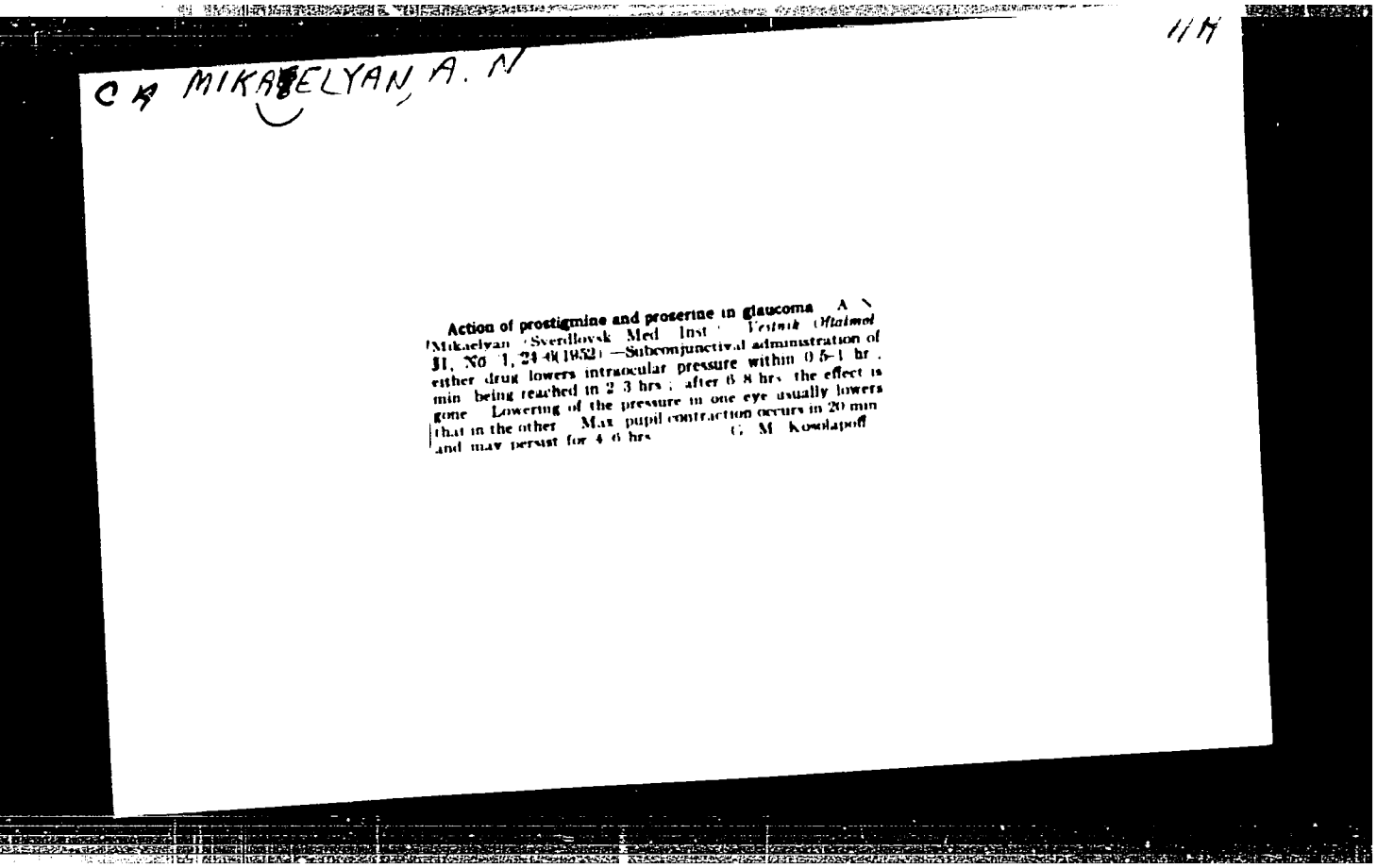
MEYERSON, F.Z.; MIKAELYAN, A.L.; MARKOVSKAYA, G.I.;

Function of the right ventricle of the heart under conditions of progressing stress on the left ventricle and left ventricular insufficiency. Zhur. eksp. i klin. med. 2 no.6:3-13 '62. (MIRA 18:10)

1. Institut normal'noy i patalogicheskoy fiziologii AMN SSSR i Institut kardiologii i serdechnoy khirurgii AN ArmSSR.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7



CA MIKAELYAN, A. N

1/4

Action of prostigmine and proserine in glaucoma. A. N. Mikaelyan (Sverdlovsk Med. Inst.). *Vestnik Oftalmol.* 31, No. 1, 24-6 (1952).—Subconjunctival administration of either drug lowers intraocular pressure within 0.5–1 hr., 5 min. being reached in 2–3 hrs.; after 6–8 hrs. the effect is gone. Lowering of the pressure in one eye usually lowers that in the other. Max. pupil contraction occurs in 20 min. and may persist for 4–6 hrs. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, A.N., kandidat meditsinskikh nauk

Blaskovicz's operation in ptosis. Vest.oft. 34 no.5:20-22 S-O '55. (MLRA 8:11)

1. Iz glaznoy kliniki (i.o.dir.dotsent G.F.Luzhinskiy) Sverdlovskogo meditsinskogo instituta.

(EYELIDS, diseases,
ptosis, surg.,Blaskovicz's operation)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, A.N., kand.med.nauk

Local diathormocoagulation in primary glaucoma. Vest.oft. 71 no.3:24-29 My-Je '58 (MIRA 11:9)

1. Kafedra glaznykh bolezney Sverdlovskogo meditsinskogo instituta
(GLAUCOMA, surg.
diathormocoguletion (Rus))
(DIATHERMY, in various dis.
same (Rus))
(ELECTROCOAGULATION, in var.dis.
glaucoma (Rus))

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

GLEBOV, B.A., inzh.; MIKAELYAN, B.G., inzh.

Two-cycle ring counter using transistors and magnetic elements. (MIRA 18:10)
Trudy MEI 55:91-102 '65.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 00643-67 EWT(d)/EWP(k)/EWP(h)/EWP(v)/EWP(l) BC

ACC NR: AR6014187 SOURCE CODE: UR/0271/65/000/011/A029/A029

AUTHOR: Glebov, B. A.; Mikaelyan, B. O.

TITLE: Two-cycle magneto-semiconductor ring register

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 11A213

REF SOURCE: Tr. Mosk. energ. in-ta, vyp. 55, 1965, 91-102

TOPIC TAGS: shift register, automatic control, automatic control system, automatic control theory

ABSTRACT: A two-cycle magneto-semiconductor register with one diode in the coupling quadripole is described. The register cores are broken into two groups. Each group cores jointly with their transistor form a slave blocking generator circuit. The register is started by negative pulses applied to transistor bases. The pulse amplitude and duration must be sufficient for exciting the regenerative process. The power fed to the load and required for advancing "1" along the ring is generated in the blocking process. The scheme operation is examined. The register may find uses in contactless automatic systems. Six figures. Bibliography of 4 titles. B. U. [Translation of abstract]

SUB CODE: 13, 09

UDC: 62-52:621.374.36

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, I.I., inzh.

Colorimetric determination of small amounts of formaldehyde and chromium concentrations. Izv.vys.ucheb.zav.; tekh.leg.prom. no.5: 27-34 '58. (MIRA 12:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut kozhevennoy promyshlennosti.
(Colorimetry) (Formaldehyde) (Chromium)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ARBUZOV, S.V.; KVYATKEVICH, I.K.; MIKAELYAN, I.I.

Searching for new methods and means for staking chrome tanned skins. Leg.prom. 18 no.10:41-42 O '58. (MIRA 11:11)
(Tanning)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, I.I., aspirant; MIKHAYLOV, A.N., prof., doktor tekhn.nauk

Investigating equilibrium in chrome and tannide tanning. Izv. vys.ucheb.zav.; tekh.leg.prom. no.6:43-51 '59. (MIRA 13:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti.
(Tanning)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, I.I., insh.; MIKHAYLOV, A.N., doktor tekhn.nauk, prof.

Thermodynamic parameters of the tanning reaction. Izv. vys. ucheb. zav.; tekh. leg. prom. No.2:42-54 '60. (MIRA 13:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti.
(Tanning)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, I.I., inzh.; MIKHAYLOV, A.N., doktor tekhn.nauk, prof.

Acidity of the tanning substance-collagen system. Izv.vys. ucheb.zav.; tekh.leg.prom. no.3:83-88 '60. (MIRA 13:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti.
(Tanning)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, I. I., CAND TECH SCI, "CHARACTERISTICS OF THE AFFINITY OF TANNING SUBSTANCES TO COLLAGEN. MOSCOW, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR, MOSCOW TECHNOL INST OF LIGHT INDUSTRY). KL, 3-61, 218).

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 38366-66

ACC NR: AP6019945 (A) SOURCE CODE: UR/0323/66/000/001/0042/0050

AUTHOR: Mikaelyan, I. I. (Candidate of Technical Sciences); Kut'in, V. A. (Candidate of Technical Sciences); Mikhaylov, A. N. (Prof.; Dr. of Technical Sciences)

ORG: Department of Chemistry and Technology of Leather and Fur, Central Scientific Research Institute of the Leather and Footwear Industry (Kafedra khimii i tekhnologii kozhi i mekha, tsentral'nogo nauchno-issledovatel'skogo instituta kozhevenno-obuvnoy promyshlennosti)

TITLE: Physicomechanical properties of collagen fibers

SOURCE: IVUZ. Tekhnologiya legkoy promyshlennosti, no. 1, 1966, 42-50

TOPIC TAGS: collagen, fiber, tanning material, lime

ABSTRACT: The properties of collagen fibers from clean raw hide and subjected to prolonged liming (four months) were studied. The resilient, elastic, plastic, and total deformation, tensile strength, elongation at rupture, and change in the size of fibers tanned by different methods were determined. X-ray structural analysis established that prolonged liming decreases the intensity of the interference rings of the x-ray diffraction patterns of collagen fibers. Tanning of the fibers also decreased the intensity of crystal rings. After prolonged liming, neutralized and tanned collagen fibers whose x-ray patterns and electron photomicrographs differed

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from those of untreated fibers displayed relatively high mechanical properties: tensile tests showed the breaking load to be 24-81 g, the corresponding tensile strength 10-35 kg/mm^2, and the elongation at rupture, 10-20%. The curves of load vs. elongation and the curves of change in deformation at constant load for fibers subjected to prolonged liming were analogous to those for fibers limed by the method used in the leather industry. The total deformation of fibers at the same constant load for untreated fibers and those tanned with basic chromium salts and plant tanning agents was approximately the same (10-12%); the deformation of formaldehyde-tanned fibers was slightly higher (14-15%). In all the fibers tested, the elastic deformation amounted to 50-60% of the total deformation. Orig. art. has: 3 figures, 5 tables, and 4 formulas.

SUB CODE: 11/ SUBM DATE: 29Mar65/ ORIG REF: 017/ OTH REF: 002

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAYELYAN, L. A.

1959, Conf.

7

Measurements of the average number of neutrons emitted in the fission of several uranium and plutonium isotopes. I. Measurement of the average number of neutrons released upon fission of uranium-233, uranium-235, plutonium-239, and plutonium-241. V. I. Kalashnikova, V. P. Zakharova, V. I. Lebedev, L. A. Mikaelyan, and P. E. Spivak. *Conf. Acad. Sci. U.S.S.R. on Peaceful Uses of Atomic Energy, Session Div. Phys. Math. Sci. 1955, 123-6* (Pub. 1956) (Engl. translation). II. Number of neutrons generated at the fission of heavy nuclei as a function of the excitation energy of the fissionable nucleus. V. I. Kalashnikova, V. P. Zakharova, A. V. Krasnushkin, V. I. Lebedev, and M. I. Pevzner. *Ibid.* 127-30. III. Estimation of the average number of neutrons which are released at the fission of various isotopes of uranium and plutonium. V. I. Kalashnikova, V. P. Zakharova, V. I. Lebedev, and P. E. Spivak. *Ibid.* 131-2.—See *C.A.* 50, 3113c. B. M. R.

Rmf

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAYELYAN, L. A

C-5

Category : USSR/Nuclear Physics - Nuclear Reactions

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3240

Author : Kalashnikova, V I , Lebedev, V.I., Mikaelyan, L.A. Pevzner, M I
Title : Number of Neutrons Emitted by Pu^{239} Fissioned by Thermal and Superthermal Neutrons.

Orig Pub : Atom. enirgiya, 1956, No 3, 11-12

Abstract : A comparison was made of the average number ν of neutrons emitted upon fission of Pu^{239} by thermal neutrons and by neutrons in the energy range of 0.15 -- 0.5 ev, corresponding to resonance in the formation of the intermadiate Pu^{240} nucleus. The work was performed with a neutron beam emerging from the reflector of the RFT reactor. The procedure for the relative measurements of ν was described previously (Referat. Zh. Fizika, 1950, 16204) The resonant neutrons were separated with filters made of Cd and Gd.

The measurements have shown that in the range of energies under investigation the value of ν remains constant (with accuracy to within 2%). This result agrees with data by Leonard et al (Leonard, B.R. Jr. et al, Bull. Am Phys Soc , 1956, 1, No 1, A2) and Auclair et al (Auclair, J-M., et al, C r. Acad. Sci. 1955, 241, 1935) and contradicts

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

Category : USSR/Nuclear Physics - Nuclear Reactions C-5

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3240

the report by Zimmerman et al (Zimmerman, R.L. et al, Bull. Am. Phys. Soc., 1956, 1, No 1, A1) concerning a 12% reduction in the value of $\sqrt{}$ in the resonant region at 0.3 ev.

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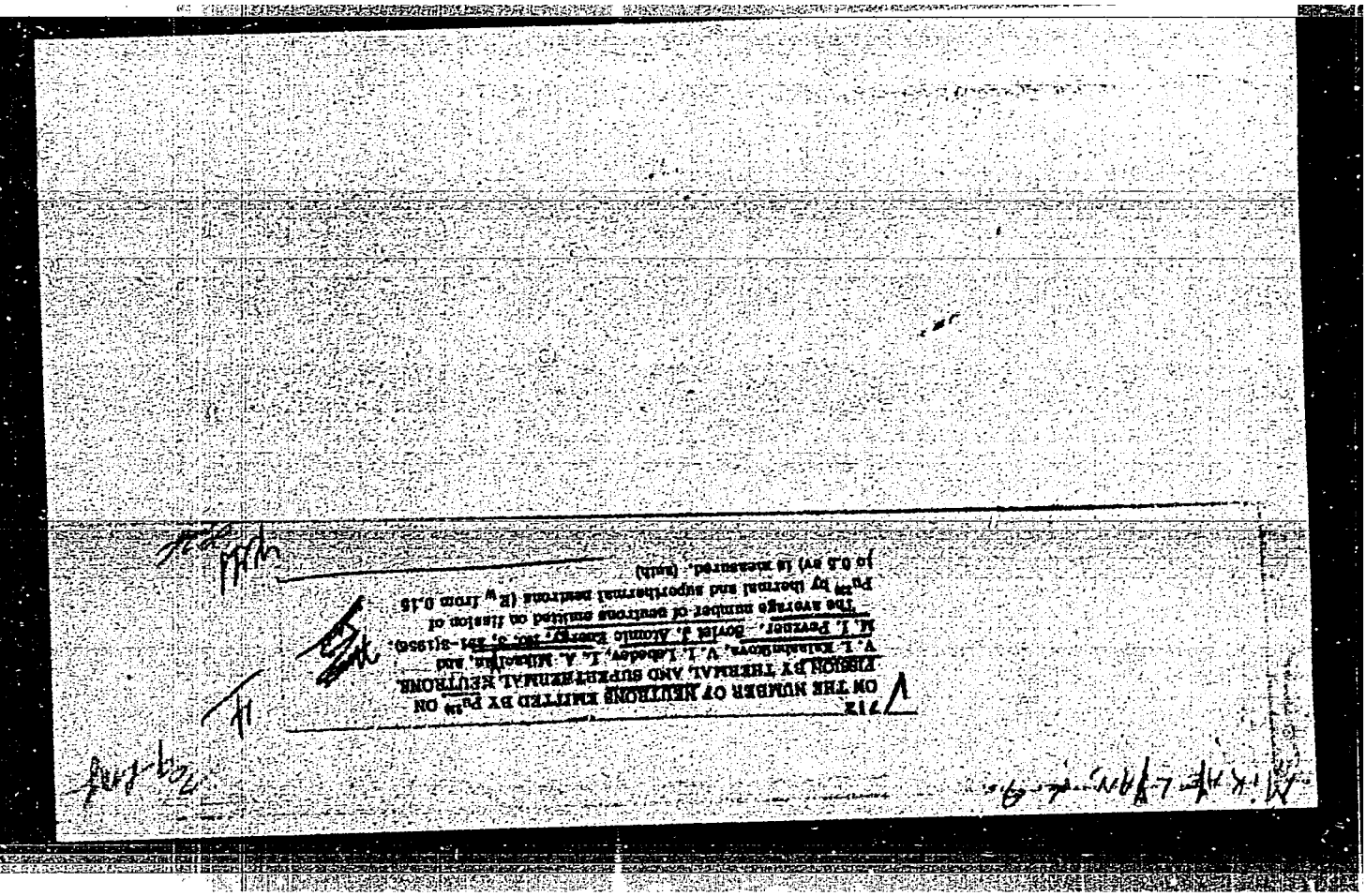

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L.A.

21 (8)
AUTHORS: Apalin, V. F., Dobrynin, Yu. P., Kutikov, I. Yu., Mikaelyan, L. A. (Deceased), Smirenov, V. P.

SOV/89-7-4-11/28

TITLE: The Mean Number of Neutrons Emitted by U^{235} in Triple Fission

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 4, pp 375-376 (USSR)

ABSTRACT: The triple fission of heavy nuclei with emission of α-particles is a very rare and comparatively little investigated phenomenon. The α-particle spectrum is then continuous, has a broad maximum at an energy of about 15 Mev, and extends up to 20 Mev. The α-particles are essentially emitted in a direction that is perpendicular to that of the departure of the initial fragments. Some discussions processes by investigating triple fission. stages of fission processes by investigating triple fission. It is interesting that the boundary of the energy spectrum of α-particles (20 Mev) is noticeably higher than the value that might be furnished by the forces of Coulomb repulsion of the uranium nuclei. According to the authors' opinion, investigation of the characteristics of triple fission as a function of the ratio of the fragment masses and investigation of the energy balance is of great interest. The quantity of neutrons

Card 1/3

flying away in fission is a measure for the excitation of the fragments. The authors therefore determined the average number ν of neutrons emitted in a triple fission of the compound nucleus U^{236}. The investigation was carried out on an electrochemical beam of a VVR-reactor. A U^{235} layer of 0.7 mg/cm² thickness was applied to the central electrode of the double ionization chamber. Counting the fission fragments is briefly described. Counting of the neutrons in the scintillator was carried out. The lifetime of the neutrons in the scintillator was 11 microseconds. A total of 5,000 cases of triple fission was recorded. The average number of neutrons per triple fission is 1.77 ± 0.09. If the thickness of the aluminum filter amounts to 35 μ, the system recorded triple fissions in which α-particles with an energy of more than 9 Mev fly off. The authors deemed it to be of essential importance to clear up the connection between ν and α-particle energy. This dependence was measured by means of an aluminum filter of 135 μ thickness. The apparatus recorded only such cases of triple fission in which α-particles with an energy of more than 22 Mev were emitted. The counting rate amounted to 40 coincidences per hour.

Card 2/3

The mean value of ν in E ≥ 22 Mev amounted to 1.79 ± 0.11, which agrees with the results of previous measurements within the limits of measuring errors. The excitation energy of the fragments does not depend on the energy of α-particles with long ranges, which are produced in triple fission. A decrease of ν indicates that the excitation energy of fragments in a triple fission is less by at least 4 Mev than in the case of a double fission. According to N. Bohr and J. Wheeler (Ref 7), the fragments are deformed before scission further down each, and the potential energy of deformation decreases. The observed decrease of the ν-value into the excitation energy. The observed decrease of the excitation energy of fragments is probably connected with the decrease of their initial deformation. The authors thank K. D. Tikhaylov and his collaborators for their assistance in producing the scintillation preparations. There are 7 references, 1 of which is Soviet.

SUBMITTED: May 4, 1959

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L.A.; SPIVAK, P.Ye.

Measuring the degree of longitudinal polarization of -electrons.
Zhur.eksp.i teor.fiz. 37 no.4:1168-1170 O '59.
(MIRA 13:5)

(Electrons)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L. A., Cand Phys-Math Sci - (diss) "Number of neutrons emitted by individual fragments in the fission of U^{235}." Moscow, 1960. 7 pp; (Institute of Theoretical and Experimental Physics, Academy of Sciences USSR); 100 copies; price not given; (KL, 19-60, 130)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L. A.

21.1000,24.6510

77208
SOV/89-8-1-2/20

AUTHORS: Apalin, V. F., Dobrynin, Yu. P. (deceased), Zakharova, V. P., Kutikov, I. Ye., Mikaelyan, L. A.

TITLE: Number of Neutrons Emitted From Individual Fission Fragments of U^{235}

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 1, pp 15-21 (USSR)

ABSTRACT: As is well known, the excitation energy in a fission process is used up according to the equation:

$$E(M)_{\gamma} = \nu(M)\epsilon(M) + \epsilon_{\gamma}(M)$$

where M is mass of the fragment; ν is average number of neutrons liberated from the fragments; ϵ_{γ} is energy carried away by γ quantas; $\epsilon(M)$ is average energy necessary to evaporate one neutron. Since ϵ_{γ}

Card 1/12 is quite insensitive to the variation of the mass ratio

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

S/056/60/039/003/006/045
B004/B060

AUTHORS. Spivak, P. Ye., Mikaelyan, L. A.

TITLE: Longitudinal Polarization of Beta Electrons

PERIODICAL. Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3 (9), pp. 574-583

TEXT: The authors wanted to find an answer, as accurate as possible, to the question as to whether the polarization of electrons is different with the beta decay of different nuclei. They applied the method of the Mott scattering: by means of a crossed electric and magnetic field, the longitudinal polarization was turned into a transversal polarization, and the latter was measured on the basis of scattering asymmetry. The scheme of the apparatus is shown in Fig. 1. The path followed by the electrons after a deflection through 90° by means of the magnetic field, the passage through the collimator and the crossed fields, hitting on the scatterer, and recording by counters are described. The authors thoroughly deal with the calibration of the

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crossed field system, the production of beta sources (P^{32}, In^{114}, Au^{198}, Lu^{177}, Sm^{153}, Ho^{166}), the examination of electron spectra for conversion lines caused by impurities (Fig. 2), the compensation of the efficiency of counters, their low background of 60 - 70 coincidences/hour, the little spread of the results of measurement due to strong collimation of the beam, the depolarization of electrons in the sources, and the correction of electrons scattered on the walls of the apparatus. The results of relative polarization (referred to Sm^{153}) are given in Table 1. Absolute measurements were made with Sm^{153} only. The asymmetry of the apparatus was determined by means of gold, silver, and aluminum scatterers (Table 2, Fig. 3). Table 3 supplies the absolute values of longitudinal polarization which were calculated from the relative values taking account of the absolute values obtained for Sm^{153}. Electrons were differently polarized in the isotopes investigated. There is a difference of 10% between P^{32} and In^{114}. The values obtained for P^{32} and Au^{198} are in agreement with data from Refs. 12,13. The authors do not consider the absolute values to be final. The accuracy of the theoretical calculation of the S-function, which indicates the

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relationship between the asymmetry of scattering and the polarization needs to be checked. The authors thank V. I. Levin and others for preparing P^{32}, and the co-workers of the physical and technical research reactor for having carried out the irradiation. There are 3 figures, 3 tables, and 20 references: 4 Soviet, 12 U.S., 1 British, and 3 Italian.

SUBMITTED: April 20, 1960

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86928

S/056/60/039/005/047/05[illegible]
B006/B077

24.6600

AUTHORS: [illegible] Ye., Mikaelyan, L. A., Kutikov, I. Ye.,
[illegible] F

TITLE: [illegible]n Double Mott Scattering and Absolute Values [illegible]f
[illegible]dinal Polarization of β-Electrons

PERIODICAL [illegible]ksperimental'noy i teoreticheskoy fiziki, 1960,
[illegible] 5(11), pp. 1479 - 1481

TEXT: The [illegible] to the Editor" continues two previous works
where [illegible] about the relative measurements of longitudi
nal polari[illegible] β electrons emitted in the decay of P^{32}, Sm^{151},
Lu^{177}, Ho^{166}, [illegible] Au^{198}. The amount of polarization differed up
to 12%. This [illegible] the polarization deviates from the predicted
value (v/c). [illegible] f these deviations was determined from absolute
measurements [illegible] rsion polarization from Sm^{151}. The degree of
polarization [illegible], $\langle\beta\rangle = (1+J_1/J_2)/(1+J_1/J_2)S$, where J_1 and J_2 are

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86928

Asymmetry in D[illegible] Scattering and Absolute Values [illegible] Longitudinal Polarization [illegible]ns

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B006/B077

the left and [illegible] attering intensities and S a function of angle, energy, and [illegible] terizing the asymmetry. In order to determine S, the authors [illegible]ted the double scattering of unpolarized electrons from g[illegible] sults of these experiments with a scattering angle of 120[illegible] s of 245 and 290 kev are reported here, the measurements were [illegible] in the ranges of 50 250 kev and 90-150°. A short description [illegible] imental setup is given which is in line with the known ones [illegible] eliminate the asymmetry caused through the device, the first [illegible] atterer was replaced by an aluminum scatterer and S_{Al}/S_{Au} was [illegible]. Four first and four second scatterers were used which had a [illegible] tween 70 and 300 $\mu g/cm^2$; statistical accuracy of S-measurements [illegible] rmined to be ± 3%, background was not greater than 5%. The [illegible] rate was 500-1500 pulses/min. Corrections for scattering fr[illegible] ils (0.4±0.2)%, and from the scatterer backing (2-4%) as well [illegible] finiteness of the angle of observation (0.5%) were taken into a[illegible] the following values were obtained:

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86928

Asymmetry in [illegible] S attering and
Absolute Values [illegible] ngitudinal
Polarizati n [illegible] s

S/[illegible]/[illegible]/[illegible]
BC06/BC77

Electron energy (keV)	S	S	S/S_T
245	[illegible]%	0.41[illegible] ± 2%	0.960 ± 2%
290	[illegible]%	0.401 ± 2%	0.94[illegible] ± 2%

S/S_T denotes the ratio of the value determined experimentally and that obtained from Sherman's tables. The depolarization of the electrons passing from the s[illegible] the scatterer were examined also at electron energies of 170 k[illegible] was found that the asymmetry can decrease by (2 ± 2)% due to this depolarization. The following absolute values were obtained for 300 keV [illegible]

	Sm[153]	Lu[177]	Ho[166]	In[114]	Au[198]
Polarization $P_n(\vartheta)/P_n(\pi/2)$	0.97	0.92	0.9[illegible]	0.92	0.91
error of relative measurements in %	[illegible]	[illegible].5	[illegible].[illegible]	[illegible].[illegible]	[illegible].[illegible]

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

86928

Asymmetry in Double M[illegible] S[illegible]ring and Absolute Val.es [illegible] Polarization of β El[illegible]

S/056/60/039/00[illegible]/[illegible]
B006/B07[illegible]

The error of als[illegible] measur[illegible] amounted to 5-3% and the deviat[illegible] from u/[illegible] were 8 /% There ar[illegible] figure, [illegible] table and 3 referer[illegible]. Soviet and [illegible]S.

SUBMITTED: [illegible]

Card 4/4

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

SPIVAK, P.Ye.; MIKAELYAN, L.A.; KUTIKOV, I.Ye.; APALIN, V.F.; LUKASHEVICH, I.I.; SMIRNOV, G.V.

Asymmetry of double Mott scattering of electrons in the energy range between 45 and 245 Kev. Zhur.eksp.i teor.fiz. 41 no.4: 1064-1068 O '61. (MIRA 14:10)
(Electrons--Scattering)

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24 6cc

39675
S/056/62/043/001/045/056
B102/B104

AUTHORS: Malin, V. F., Gritsyuk, Yu. N., Kutikov, I. Ye., Lebedev, V. I., Mikaelyan, L. A.

TITLE: The number of neutrons emitted from U^{236} in the region of symmetrical fission

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 1(7), 1962, 329-330

TEXT: Results hitherto obtained by studies on the dependence of fission neutrons on the fragment mass ratio are rather inaccurate. In order to get more reliable data, the authors investigated thermal-neutron induced U^{235} fission using a double ionization chamber. In the case of maximum distribution and symmetrical fission, the fragment yield ratio was ~210 (true value 600). The fission neutrons were detected in 4π-geometry. The total number of fission neutrons recorded at a rate of ~2) fissions/sec was ≈ $4 \cdot 10^5$. The kinetic energy E_k of the fragments and the number ν of neutrons were studied in dependence of the mass ratio

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S/056/62/043/001/045/065
... number of neutrons emitted from ... B102/B104

... ν_{min}. A distinct correlation was established between $E_k(\bar{A})$ and $\nu(\bar{A})$. ... has a minimum at $\bar{A}$ = 1.20-1.25 which practically coincides, with ... 1 a.m.u. It is of interest that $\nu(\bar{A})$ becomes the larger the more ... asymmetric fission is approached, so that 5.0 ± 0.2 neutrons/decay event are observed in the A-region from 1.00 to 1.04 (first analyzer channel). A considerable difference exists between ν in symmetrical fission and fission in the region of $\bar{A}$, which corresponds to the E_k maximum: $\nu_{max} - \nu_{min}$ = 1.6±0.2 n. If the losses due to inefficient resolution of the mass analysis are taken into account, the true ν-values exceed by ... the ones measured. Hence about 6 neutrons are emitted in symmetrical fission. There is 1 figure.

SUBMITTED: April 14, 1962

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

44227
S/056/62/043/006/015/067
B102/B104

24.6600

AUTHORS: Apalin, V. F., Gritsyuk, Yu. N., Kutikov, I. Ye., Lebedev, V. I. Mikaelyan, L. A.

TITLE: Number of neutrons emitted from U^{234} and Pu^{240} in symmetric fission

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 6(12), 1962, 2053-2055

TEXT: Layers of uranium or plutonium (5-6 $\mu g/cm^2$) were deposited on collodion films (~5 $\mu g/cm^2$), coated with gold (~10 $\mu g/cm^2$) and exposed to a neutron beam from the thermal column of a reactor. The fission neutrons were detected in almost perfect 4π geometry with a double ionization chamber. A mass-ratio analyzer registered all fragments with $E \geq 30$ Mev; the fragment counting rate was 20-30 pulses/sec. E_c, the kinetic fragment energy, was plotted against the fragment mass ratio, and the numbers ν of fission neutrons were plotted in the same diagrams. It can be seen that ν has a minimum where E_c has a maximum. In the case of

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Number of neutrons emitted from ...

symmetric fission ν reaches a maximum; $\Delta\nu = \nu_{max} - \nu_{min}$ = 1.80±0.25 for U^{234} and $\Delta\nu$ = 1.10±0.2 for Pu^{240}. For U^{236} $\Delta\nu$ = 1.6±0.2 had been obtained (ZhETF, 43, 331, 1962). Owing to effects of the apparatus these values are far from the true ones. Taking those effects into account $\Delta\nu$ = 4.0±0.7, 4.4±0.6, and 3.2±0.6 for U^{234}, U^{236} and Pu^{240}. There is 1 figure.

SUBMITTED: July 16, 1962

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L.A.

S/056/63/044/004/009/044
B102/B186

AUTHORS: Mikaelyan, L. A., Borovoy, A. A., Denisov, E. I.

TITLE: Double Mott scattering of electrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 4, 1963, 1162 - 1170

TEXT: The method of Mott scattering, which is most effective for determining the degree of polarization $\langle\sigma\rangle$ of electron beams, yields the value for the product $\langle\sigma\rangle S$. The discovery of parity non-conservation in weak interaction has raised interest in an accurate determination of S. P. Ye. Spivak et al. (ZhETF, 41, 1064, 1961) have measured S in the range 45 - 245 kev at the angle 120°. Continuing these investigations, the authors determined the angular dependence of S between 90 and 150° for the energies 63, 133, 170 and 245 kev. The experimental apparatus was constructed so that the accelerated electron beam focussed onto the first scatterer was scattered through 120° to fall perpendicularly onto the second scatterer around which a set of counters was arranged (90, 105, 120, 135, 150°). In order to reduce the background of electrons scattered from the walls, the walls were lined with Plexiglas and the apparatus was

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B102/B186

Double Mott scattering of electrons

provided with electron traps. In all cases S was measured for several scatterers with different thicknesses and the results were extrapolated to zero thickness, thus eliminating multiple scattering effects. The relative depolarization was determined by measuring the energy dependence of $\alpha = (1/S)dS/dl$ between 45 and 300 kev. α drops rapidly with increasing E. $S(\theta)[P_{Au} - P_{Al}]$ was determined for all angles and all electron energies; θ is the angle of second scattering, P_{Au} and P_{Al} are the polarizations of the beams incident on gold and aluminum targets, respectively. In addition S was calculated according to Sherman (Phys. Rev. 103, 1601, 1956). The results are compared also with those of other authors.

		E, kev		
		245	170	63
θ	S_{th}	0.255	0.265	0.247
90°	S_{exp}	0.265±4%	0.267±5%	0.217±6%
	S_{th}	0.401	0.359	0.273
150°	S_{exp}	0.389±4%	0.345±5%	0.237±6%

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

Double Mott scattering of electrons

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B102/B186

There are 4 figures and 1 table.

ASSOCIATION: Institut atomnoy energii Akademii nauk SSSR (Institute of Atomic Energy of the Academy of Sciences USSR)

SUBMITTED: November 12, 1962

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 58339-65 EWI(m)/EWA(h) Peb

ACCESSION NR: AT5010447 UR/3136/64/000/709/0001/0007

14
B+1

AUTHOR: Apalin, V. F.; Gritsyuk, Yu. N.; Kutikov, I. Ye.; Lebedev, V. I.; Mikaelyan, L. A. 19

TITLE: Kinetic energy of fragments and energy balance in the fission of U-235 by thermal neutrons

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 709, 1964. Kinetiches-kaya energiya oskolkov i energeticheskiy balans pri delenii U^{235} teplovymi neytronami, 1-7

TOPIC TAGS: uranium 235, thermal neutron fission, fragment kinetic energy, energy balance, symmetrical fission, asymmetrical fission

ABSTRACT: The distribution of the total kinetic energy of the supplementary fragments produced in the fission of U^{235} by thermal neutrons was determined with the aid of a gas ionization chamber as a function of the ratio of the fragment masses. The ionization chamber was described by the authors elsewhere (ZhETF v. 46, 1197, 1964; Nucl. Phys. v. 55, 249, 1964). The pulses from the ionization chamber were fed to a multichannel ratio analyzer, 30 channels of which covered the investigated

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ACCESSION NR: AT5010447

mass range. The data reduction and the error analysis are briefly discussed. Plots are presented of the total kinetic energy of the U^{235} fragments against the initial mass of the heavy fragment, of the spectra of the total kinetic energy of the symmetrical-fission fragment kinetic energy, of the spectra of the total kinetic energy of the fragment for several mass ratios, and of the energy balance in the fission of U^{235}. A value of 21 MeV is obtained for the difference between the average kinetic energies in symmetical fission and in fission in which the heavy fragment is magic (M_h = 130--132). The ratio of the maximum of the curve showing the yield of the final fragments to its minimum in the case of symmetrical fission was approximately 500:1 in these measurements. The total energy release, obtained from the experimental data, is in good agreement with the value calculated by the semi-empirical Weizsacker formula in all cases, except in the region of the strongly asymmetrical fission. Orig. art. has: 5 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 008

Card 2/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 58340-65 EWT(m)/EPF(n)-2/EWA(h) Pu-4 UR/3136/64/000/710/0001/0009

ACCESSION NR: AT5010448

AUTHOR: Apalin, V. F.; Gritsyuk, Yu. N.; Kutikov, I. Ye.; Lebedev, V. I.; Mikaelyan, L. A.

TITLE: Emission of neutrons from the fission fragments of U-233, U-235, and Pu-239

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 710, 1964. Emissiya neytronov iz oskolkov deleniya U^{233}, U^{235}, i Pu^{239}, 1-9

TOPIC TAGS: fission fragment, uranium fission, plutonium fission, neutron emission, neutron energy

ABSTRACT: This is a sequel to earlier measurements of neutron emission from individual fragments in the fission of U^{235} (ZhETF v. 46, 1197, 1964; Nucl. Phys. v. 55, 249, 1964). The present paper deals with the results of analogous measurements in the case of the fission of U^{233} and Pu^{239}. The measurement procedure was described in the earlier paper. Special attention is paid to the reliability with which symmetrical fission events are separated. It is shown that the number of false events registered in the region of symmetrical fission has been reduced to 15--20%. The plot of the number of neutrons against the initial mass of the fragment exhibits a deep minimum whose position is very close to the region of closed shells M = 82,

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Z = 50 (M = 130--132). At this minimum the fragments emit only approximately 0.3 neutron. The curve also exhibits a maximum which has a different position for the different nuclei and shifts towards larger masses with increasing atomic weight of the fissioning nucleus. The position of the maximum for each of the nuclei is quite close to a mass value which is complementary to the magic fragment. An empirical formula is derived for the energies carried away by the neutrons from the fragments. Some hypotheses concerning the manner in which fission proceeds are advanced. "The authors thank J. Milton for supplying the tables compiled by him (UCRL 9813, 1962) and to B. Geylikman and V. Strutinskiy for interesting discussions." Orig. art. has: 6 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 006 OTHER: 012

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

ACCESSION NR: AP4031137 S/0056/64/046/004/1197/1204

AUTHORS: Apalin, V. F.; Gritsyuk, Yu. N.; Kutikov, I. Ye.; Lebedev, V. I.; Mikaelyan, L. A.

TITLE: On the number of neutrons emitted by U-235 fission fragments

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1197-1204

TOPIC TAGS: uranium 235, symmetrical fission, asymmetrical fission, neutrons emitted by fragments, fragment kinetic energy, nucleus excitation energy, total energy release, fragment mass ratio

ABSTRACT: Continuing earlier measurements of the total number of neutrons emitted by both fragments in the case of fission of U^{233}, U^{235}, and Pu^{239} by thermal neutrons (ZhETF v. 43, 329 and 2053, 1962), the authors have repeated the experiments on U^{235} with equipment that provided greater resolution in mass analysis, so as to obtain a quantitative agreement between the increase in the excitation

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ACCESSION NR: AP4031137

energy and the decrease in the kinetic energy. The new equipment constituted an ionization chamber and a cadmium-containing neutron detector. Comparison of the data for U^{235} with those for Cf^{256} refutes the hypothesis advanced by Terrel (Phys. Rev. v. 127, 880, 1962) that the number of neutrons varies with the fragment mass in the same fashion for all nuclei. Calculations show that in the region of symmetrical fission the excitation energy of the fragments increases by about 20 MeV. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 27Sep63 DATE ACQ: 07May64 ENCL: 02

SUB CODE: PH, NS NO REF SOV: 003 OTHER: 012

Card 2/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 52736-65 EWT(m)/EWA(h) Pab
ACCESSION NR: AP5013110 UR/0367/65/001/004/0639/0646

AUTHOR: Apalin, V.; Gritsyuk, Yu.; Kutikov, I.; Lebedev, V.; Mikaelyan, L.

TITLE: Neutron emission from fragments of U^{233}, U^{235}, and Pu^{239} in thermal-neutron fission

SOURCE: Yadernaya fizika, v. 1, no. 4, 1965, 639-646

TOPIC TAGS: nuclear fission, thermal neutron fission, fission fragment, neutron emission, symmetric fission

ABSTRACT: This is a continuation of earlier measurements (ZhETF v. 43, 329, 2053, 1962; Nucl. Phys. v. 38, 193, 1962 and v. 41, 92, 1963; ZhETF v. 46, 1197, 1964) of the total number of neutrons emitted by fragments as a function of their mass ratio. In the present work the authors measured the neutron emission from fragments of U^{233}, U^{235}, and Pu^{239} separated by an improved technique, and discuss the accuracy of the information obtained. The experimental technique was the same as in the earlier work, with the fragment mass determination made by means of a double-grid ionization chamber and a liquid-organic scintillator neutron detector. To assess

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ACCESSION NR: AP5013110

the reliability of the information obtained in the symmetric-fission region, the experimental mass distribution was compared with the results of radiochemical studies (J. Katcoff, Nucleonics v. 18, No. 11, 201, 1960). Good agreement with these data was found everywhere except in the symmetric-fission region, where the present data lie somewhat above the values of Katcoff. It is estimated that not more than 30% and more likely 15--20% of the events in symmetric fission are spurious. An attempt is made to deduce a correlation between the neutron emission data and the dynamics of the fission process at low excitation energies. "The authors thank J. Milton for sending his tables, and B. Geylikman and V. Strutinskiy for interesting discussions." Orig. art. has: 6 figures and 3 formulas.

ASSOCIATION: None

SUBMITTED: 160ct64 ENCL: 00 SUB CODE: NP

NR REF SOV: 005 OTHER: 012

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 60937-65 EWT(m)/EWA(h) Peb

ACCESSION NR: AP5014317 UR/0367/65/001/005/0816/0820

AUTHORS: Apalin, V.; Gritsyuk, Yu.; Kutikov, I.; Lebedev, V.; Mikaelyan, L.

TITLE: Kinetic energy of fragments and energy balance in thermal neutron fission of U-235

SOURCE: Yadernaya fizika, v. 1, no. 5, 1965, 816-820

TOPIC TAGS: uranium 235, thermal neutron fission, symmetrical fission, fragmetn energy, fragment mass distribution, magic nucleus

ABSTRACT: The distribution of the total kinetic energy of complementary fission fragments was measured as a function of the fragment-mass ratio, using a gas ionization chamber. The total kinetic energy of the fragments from the fission of U^{235} by thermal neutrons was measured directly with the double-grid ionization chamber used by the authors previously (ZhETF v. 46, 1197, 1964; YaF v. 1, 639, 1965). The pulses from the ionization chamber were fed to a multichannel ratio analyzer in which the range of ratios subtended 30 analyzer channels.

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For each mass ratio the authors measured the distribution of events with respect to the total ionization produced by the fragments in the chamber. The analyzer energy scale was calibrated against time-of-flight kinetic-energy measurements at a mass value corresponding to the most probable fission. A value of 21 MeV was obtained for the difference between the average kinetic in symmetrical fission and in fission in which the heavy fragments are magic (130 -- 132). The experimental results were in good agreement with those of J. Milton and J. Fraser (Phys. Rev. Letters v. 7, 67, 1961; Can. Jour. Phys. 40, 1626, 1962), except in the symmetric-fission region, where the decrease in energy, compared with the value at the peak, amounts to 21 MeV. The ratio of the maximum and minimum of the final-fragment yield curve in symmetrical fission proved to be approximately 500:1. The total energy release found from the experimental data is in good agreement with calculations based on the semi empirical Weizsacker formula, except for the regions of strongly asymmetric fission. The causes of the discrepancies in the latter case are not clear. Orig. art. has: 5 figures

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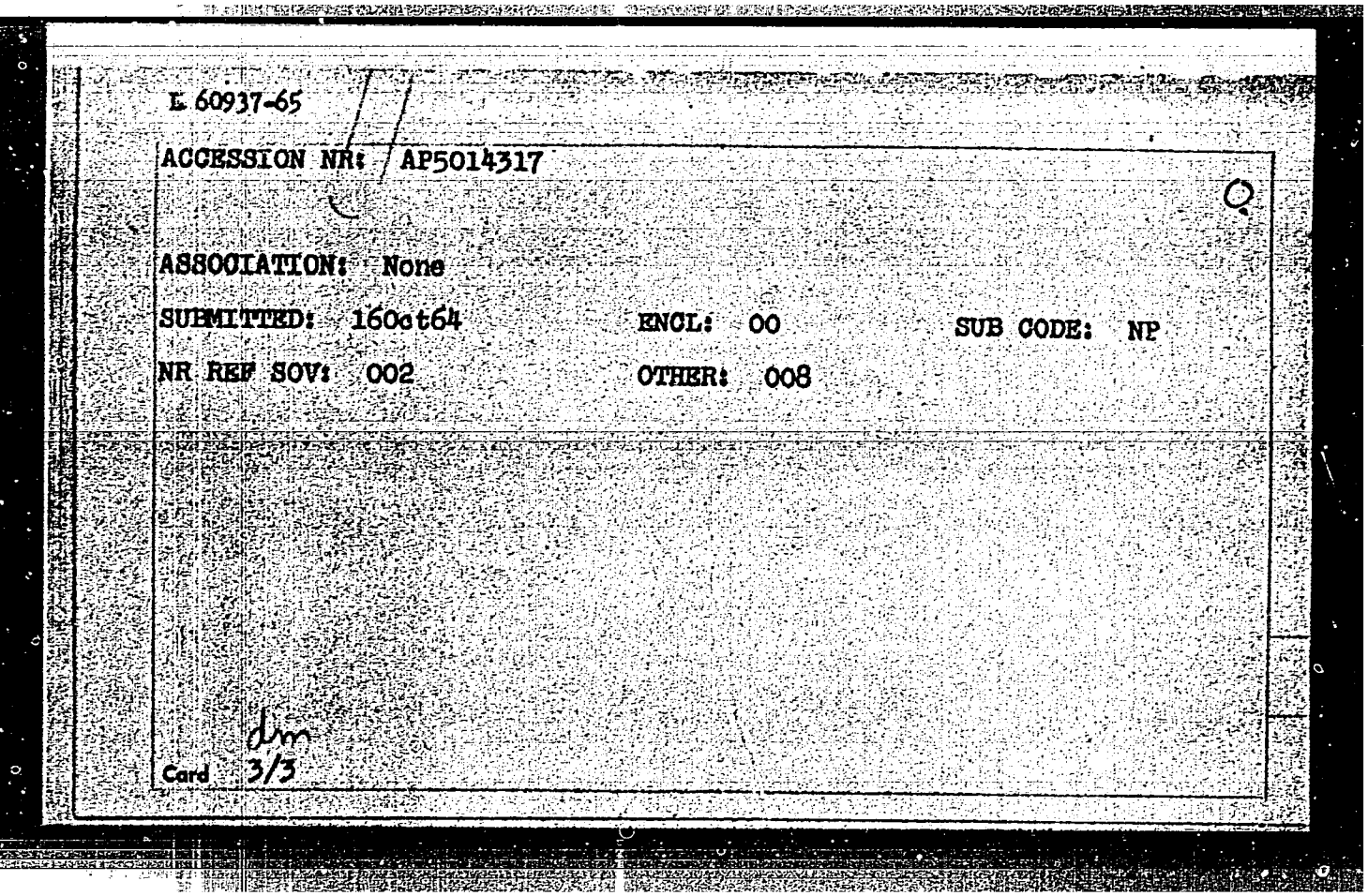

L 60937-65

ACCESSION NR: AP5014317

ASSOCIATION: None

SUBMITTED: 16Oct64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 008

dm

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L 60938-65 EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5014318 UR/0367/65/001/005/0853/0855

AUTHORS: Mikaelyan, L. A.; Spivak, P. Ye.; Tsinoyev, V. G. 23 14

TITLE: Suggested experiments on low energy antineutrino physics 19 B

SOURCE: Yadernaya fizika, v. 1, no. 5, 1965, 853-855

TOPIC TAGS: neutrino, antineutrino, pulsed reactor, neutrino electron scattering, neutrino electromagnetic property, elementary particle interaction

ABSTRACT: To check on the possibility of experimentally observing interactions of neutrinos or antineutrinos with elementary particles, the authors propose a program of experiments for the observation of the scattering of low-energy antineutrinos by electrons. A pulsed nuclear reactor is proposed as the source of antineutrinos. This reactor, operating in pulses lasting approximately 1 second, with a pulse repetition frequency about 10 pulses daily, and with an average reactor power of 5×10^4 -- 10^5 kW, would yield a flux of (1.5 -- 3)

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L 60938-65

ACCESSION NR: AP5014318 9

$\times 10^{15}$ antineutrinos/cm^2 sec. Calculations show that when such antineutrinos are scattered by electrons they can produce recoil electrons with energy larger than 2 MeV, the cross section for this process being 13 $\times 10^{-45}$ cm^2, which can be effectively detected with an NaI detector. The reactor is also capable of producing neutrinos of constant energy (~ 1.7 MeV) and of sufficient intensity to permit research on neutrinos which arrive on earth from the sun. Other possible studies of electromagnetic properties of antineutrinos and of the inverse β decay on protons and other nuclei are also discussed. The authors thank S. M. Feynberg, Ya. V. Shevelev, B. M. Pontecorvo, V. P. Dzhelepov, L. B. Okun', I. S. Shapiro, I. Ya. Pomeranchuk and Yu. V. Gaponov for numerous discussions, and A. P. Aleksandrov for a discussion and interest in the work. Orig. art. has: 2 formulas

ASSOCIATION: None

SUBMITTED: 13Nov64 ENCL: 00 SUB CODE: NP

NR REF SOV: 000 OTHER: 005

dvm

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, L.A.

Neutrino. Priroda 54 no.9:24-35 S '65. (MIRA 18:9)

1. Institut atomnoy energii im. I.V. Kurchatova AN SSSR, Moskva.

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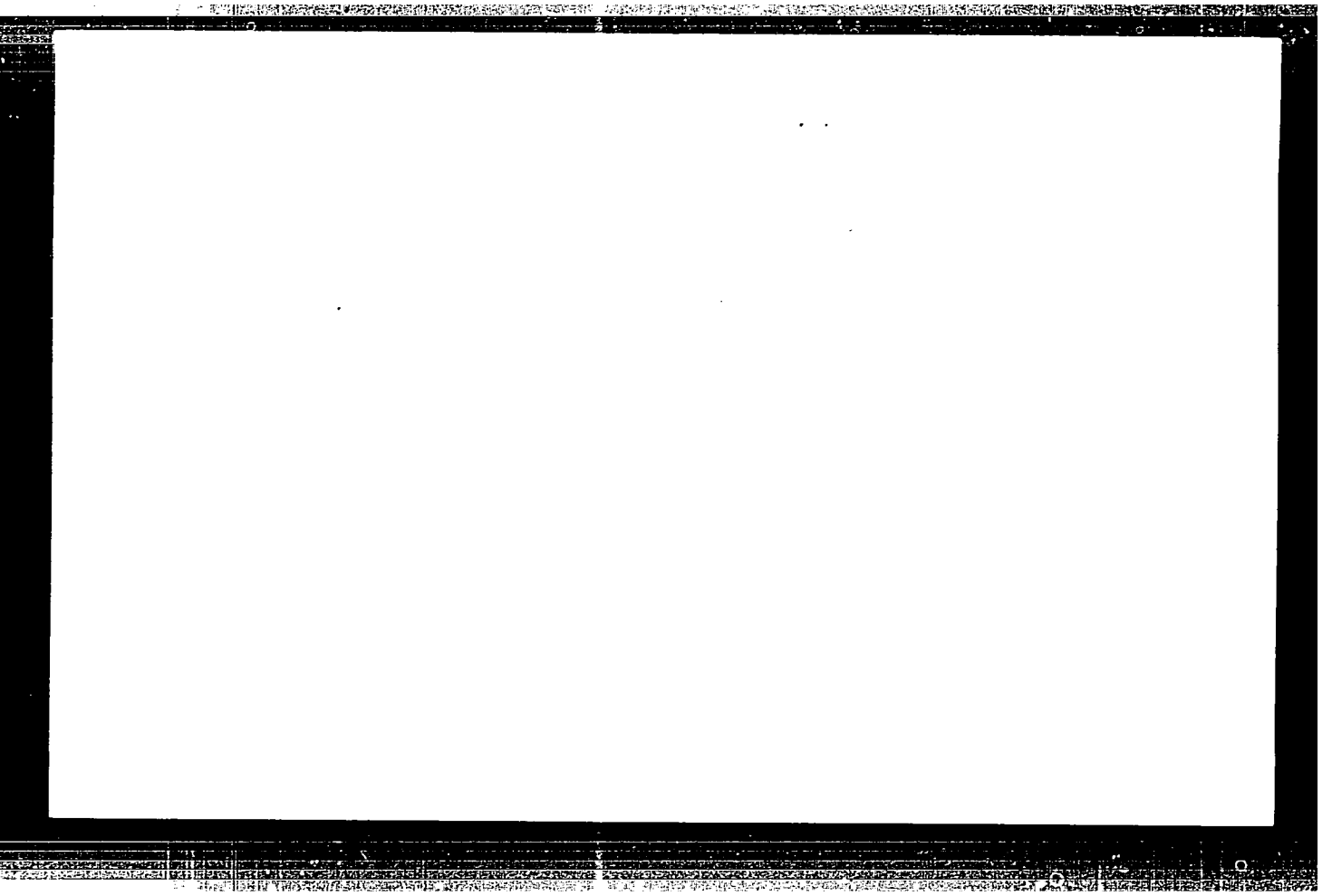

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAYELYAN, N.G.

Effect of enucleation on the reproductive function in birds.
Izv. AN Arm. SSR. Biol. nauki 17 no.8:59-65 Ag '64.
(MIRA 17:10)

1. Institut fiziologii imeni L.A. Orbeli ArmSSR.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAYELYAN, N.G.

Role of the cerebellum in the reproductive function of birds.
Fiziol. zhur. SSSR 46 no.2:214-19 '60.
(MIRA 13:5)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, R.A., inzh.

Effect of nozzle parameters on air-blast arc quenching. Elektrichestvo no.2:61-63 F '58. (MIRA 11:2)

1. Vsesoyuznyy elektrotekhnicheskiy institut imeni Lenina.
(Electric engineering)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, R. A., Candidate Tech Sci (diss) -- "Arc extinction with an autopneumatic circuit-breaker under conditions of a large number of circuit-breaking operations". Moscow, 1959. 25 pp (All-Union Order of Lenin Electrical Engineering Inst im V. I. Lenin), 150 copies (KL, No 25, 1959, 135)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

L 42825-66 EWT(l)/EWT(m)/T/EWP(t)/ETI IJP(c) JL, JW/JG/GG

ACC NR: AP6029832 SOURCE CODE: UR/0363/66/002/008/1533/1533

AUTHOR: Batygov, S. Kh.; Mikaelyan, R. G.; Fursikov, M. M.

ORG: Physics Institute im. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: The effect of cerium addition on the optical properties of gamma irradiated $CaF_2:Dy^{3+}$ crystals

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 8, 1966, 1533

TOPIC TAGS: activated crystal, calcium fluoride, dysprosium, cerium ion, luminescent crystal, optical property, gamma irradiation, laser optic material

ABSTRACT: Incorporation of small quantities (0.04 wt.%) of CeF_3 into $CaF_2:Dy^{3+}$ crystals contributed to an increase in thermal and photostability of unstable Dy^{2+} which is formed by gamma-irradiation of the crystals. These observations were made in a comparative study of thermal bleaching and luminescence of gamma-irradiated (10^7 rad dose) $CaF_2:Dy^{3+}$ crystals, with and without CeF_3 addition. After two hours bleaching at 100C, the CeF_3-containing gamma-irradiated crystals exhibited a constant coefficient of maximum absorption (at 715 mμ) which was higher than that of the similarly treated crystals without CeF_3. Also, intensity of absorption and luminescence due to Dy^{2+} increased and remained constant after a prolonged irradiation of the CeF_3-containing crystals. These increases in thermal and photostability and in the

Card 1/2 UDC: 548:539.104+539.12.04

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ACC NR: AP6029832

intensity of Dy^{2+} absorption bands in the presence of cerium were tentatively attributed to the formation of Ce^{4+} ions in the process of irradiation. Orig. art. has: 1 figure. [JK]

SUB CODE: 20/ SUBM DATE: 30Dec65/ OTH REF: 002/ ATD PRESS: ATD Press 5065

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MIKAYELYAN, S.G.

Viability [illegible] nauki [illegible].

1. Kafedra darvinizma i genetiki Yerevanskogo [illegible] universiteta.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

3(5) SOV/9-59-7-8/15

AUTHOR: Mikaelyan, Sh.S.

TITLE: Dependence of Porosity Parameter on Porosity Factor

PERIODICAL: Geologiya nefti i gaza, 1959, Nr 7, pp 38 - 44 (USSR)

ABSTRACT: At present porosity and permeability of rocks are being determined by laboratory analyses of core samples. This method, however, has a series of deficiencies and it is advisable to complete it by geophysical investigation of the wells, carried out for the purpose of determining the collecting properties of the rocks. Porosity of non-clay rocks is determined by their specific resistance when the pores are filled with water. In order to exclude the effect of mineralization of water filling the pores, the specific resistance is usually replaced by the porosity parameter: $P_\rho = \frac{\rho_{vp}}{\rho_v}$ where ρ_{vp} is the specific resistance of the water saturated collector and ρ_v is the specific resistance of the water, filling the collector at the stratum temperature. The dependence of the porosity parameter on the porosity factor K_ρ is determined by considering the mineralization of water, the stratum temperature, the specific resistance of the collector and its porosity factor. The inter-

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MIKAELYAN, Sh.S.

Determination of the gas and water saturation ratio of a producing horizon in the Berezovo gas-bearing region based on geophysical data. Trudy SNIIGGIMS no.18:46-49 '61. (MIRA 16:7)
(Berezovo region (Khanty-Mansi National Area)--Gas, Natural)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, Sh.S.; IRBE, N.A.

Effect of porosity and formation pressure on gas yield. Trudy SNIIGGIMS no.18:50-53 '61. (MIRA 16:7)
(Berezovo region (Khanty-Mansi National Area)--Rocks--Permeability)
(Berezovo region (Khanty-Mansi National Area)--Gas, Natural--Geology)

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PRYANISHNIKOV, Dmitriy Nikolayevich, akademik; MIKAEL'YAN, T.S., red.; SAYTANIDI, L.D., tekhn. red.

[Field fertilization and crop rotation; selected articles] Ob udobrenii polei i sevooborotakh; izbrannye stat'i. Moskva, Izd-vo M-va sel'.khoz. RSFSR, 1962. 253 p. (MIRA 15:4)

(Rotation of crops) (Fertilizers and manures)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MORSIN, Sergey Sergeyevich; MIKAEL'YAN, T.S., red.; SHESHNEVA, E.A., tekhn. red.

[Schools for advanced practices in agriculture] Shkoly peredovogo opyta v sel'skom khoziaistve. Moskva, Izd-vo MSKh RSFSR, 1963. 93 p. (MIRA 16:8)

1. Russia (1917- R.S.F.S.R.) Ministerstvo sel'skogo khozyaystva RSFSR. 2. Zamestitel' nachal'nika Upravleniya nauchnykh uchrezhdeniy Ministerstva sel'skogo khozyaystva RSFSR (for Morsin).
(Agriculture) (Agricultural education)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAEL'YAN, T.S., red.

[Collection of technically substantiated time norms for repair work] Sbornik tekhnicheski obosnovannykh normativov vremeni na remontnye raboty. Moskva, Rossel'khozizdat, 1964. 134 p. (MIRA 17:9)

1. Tsentral'nyy respublikanskaya sel'skokhozyaystvennaya normativno-issledovatel'skaya stantsiya.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

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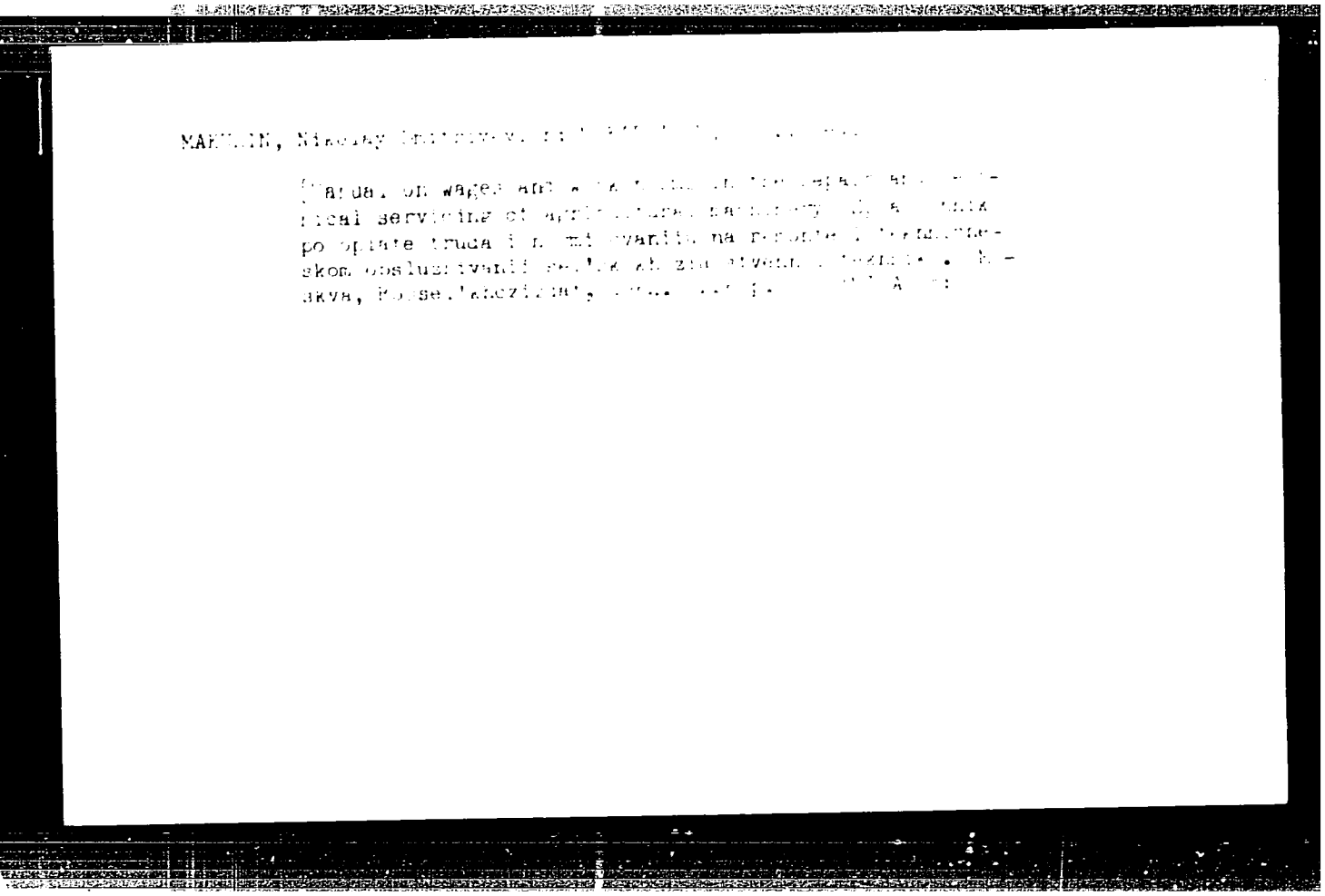

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ZAKLADNOY, Viktor Stepanovich; KOMAROVA, Tamara Alekseyevna; MIKAEL'YAN, T.S., red.

[Wages for motor vehicle drivers on state farms] Oplata truda shoferov v sovkhozakh. 2., dop. izd. Moskva, Rossel'khozizdat, 1965. 159 p. (MIRA 18:3)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

MIKAELYAN, T.S., red.

[Standard norms for production and fuel consumption in transportation on tractors and loading operations] Tipovye normy vyrabotki i raskhoda topliva na traktorno-transportnye i pogruzochnye raboty. Moskva, Rossel'-khozizdat, 1965. 189 p. (MIRA 18:7)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye organizatsii truda i zarabotnoy platy.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033910016-7

SMIRNOVA, V.A.; MIKAEL'YAN, T.S., red.

[Collection of regulations on wages for workers of state agricultural enterprises] Sbornik polozhenii po oplate truda rabotnikov gosudarstvennykh sel'skokhoziaistvennykh predpriiatii. Moskva, Rossel'khozizdat, 19[illegible]. [illegible] p. (MIRA 18:6)

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